RSV Monoclonal Antibody Therapy

By: Omana Jacob, Head nurse NICU

Mafraq Hospital

Respiratory syncytial virus (RSV) is the most common respiratory pathogen in infants and young children. It infects virtually all infants by the age of two years. In most infants, the virus causes symptoms resembling those of the common cold. In infants born prematurely and/or with bronchopulmonary dysplasia, RSV can cause a severe or even life-threatening disease. Each year, RSV disease results in over 90,000 hospitalisations world-wide and about 2% of these infants die.

RSV is highly contagious. Each year, up to 50% of susceptible infants are infected. RSV can spread very rapidly in the hospital environment; up to 40% of hospitalised children may become infected. Transmission occurs by contact with infectious secretions via hand contamination and self-inoculation of eyes, nose or mouth, or by contact with large-droplet aerosols. RSV can survive for 4-7 hours on countertops. Transmission may be prevented by standard infection control practices, such as hand washing.

RSV outbreaks occur on a yearly basis, on a fairly predictable schedule that varies from one region to another.

At this date there are no safe and effective RSV vaccines. There is an inherent obstacle to the development of an RSV vaccine. RSV infection does not protect against subsequent infections, so an effective vaccine would be required to provide what a natural RSV infection cannot provide. However, there are two effective vaccine would be required to provide what a natural RSV infection cannot provide. However, there are two effective preventive agents available. RespiGam® (respiratory syncytial virus immune globulin intravenous), a polyclonal antibody, provides effective prevention against RSV, and Synagis™ (palivizumab), a monoclonal antibody, which provides protection against serious lower respiratory tract infections caused by RSV in infants and children at high risk for RSV disease. Animal studies have shown that Synagis™ is more potent than RespiGam® .

(Palivizumab) Synagis™ is a monoclonal antibody produced by recombinant biotechnology, which is specifically designed to neutralise RSV. Monthly intramuscular (IM) injections of Synagis™ prior to and during the RSV season have been shown to significantly reduce RSV hospitalisations in infants at high risks. Synagis™ (palivizumab) is indicated for the prevention of serious lower respiratory tract disease caused by RSV. Candidates for prophylaxis with Synagis™ include premature infants (<35 weeks gestation) without bronchopulmonary dysplasia (BPD). Other candidates include infants with BPD requiring medical management in the prior six months. Other infants at risk for RSV may be considered on a case-by-case basis, especially if any of the following risk factors are present: multiple birth, crowded household (>4 people, or siblings), child will be going to day care, if smokers are present in the household, especially the mother. Some infants may benefit from prophylaxis for two RSV seasons.

Synagis™ is given once a month during anticipated period of RSV prevalence in the community. The first dose should be administered prior to commencement of the RSV season and subsequent does should be administered monthly throughout the RSV season in order to maintain protection. It is recommended that children infected with RSV continue to receive monthly doses of Synagis™ for the duration of the RSV season.

The Synagis™ labelling contains the following contraindications, warnings and precautions. You should always be familiar with medication before administration and check manufacturers instructions.

CONTRAINDICATIONS: Synagis™ palivizumab) should not be used in paediatric patients with a history of a severe prior reaction to Synagis™ or other components of this product.

WARNINGS: Anaphylactoid reactions following the administration of Synagis™ have not been observed, but can occur following the administration of proteins. If anaphylaxis or severe allergic reaction occurs, administer epinephrine [adrenaline] (1:1000) and provide supportive care as required.

PRECAUTIONS: Synagis™ is for intramuscular use only. As with any intramuscular injection, Synagis™ should be given with caution to patients with thrombocytopenia or any coagulation disorder. The single-used vial of Synagis™ does not contain a preservative. Injections should be given within six hours after reconstitution.

Babies with birth weight < 1500 gm are more prone to get RSV bronchiolitis in the first 2 year of age due to the prolonged ventilator support and chronic lung disease. American Academy of Paediatrics recommended the use of RSV monoclonal antibody therapy to prevent the serious lower respiratory tract disease caused by respiratory syncytial virus (RSV).

At Mafraq Hospital, Palivizumab is given to patients mainly during the 5 months of peak season of 'winter' in the UAE. All preterm babies of 28 weeks of gestation for the first year of life after discharge. Preterm babies between 29 & 32 weeks gestation, for the first 6 months after discharge. Babies with chronic lung disease for the first 2 years of life after discharge, who recently (within last 6 months) required medical treatment for chronic lung disease.

Reference:

Q&A questions and answers on Synagis™ (palivizumab) and respiratory syncytial virus. Brochure. Abbott laboratories, Dubai UAE

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Contributions will be evaluated for congruence with Abu Dhabi Nurse editorial policies. Abu Dhabi Nurse is **NOT** a refereed journal. Contributions will be accepted on the following criteria:

- Main author is a nursing employee of the GAHS
- Style and information is consistent and does not contravene the MOH (2001) Code of Conduct for Nurses.
- Information contained is valid and sources referenced
- Relevancy to the profession of Nursing in Abu Dhabi

Contributions can utilise different methods and approaches, may examine methodological and/or conceptual questions, and should make a theoretical and/or empirical contribution to the profession of nursing in Abu Dhabi. Nursing in the UAE is undergoing professional growth and the GAHS continues to encourage the development of the profession, so articles dealing with clinical or professional practice, research, education and nursing theory application in Abu Dhabi are clearly welcome.

While there is no restriction on style or content, papers should contribute to building, enriching, reviewing or reiterating the body of knowledge in nursing in a coherent and cumulative manner. Research implications and/or nursing implications should be explicit and persuasive. Empirical and/or theoretical research will be clearly conceptualised, linked to actualisation efforts and will offer new propositions.

The editorial team reserves the right to edit content of all submissions made to the magazine.

Mail and Correspondence

Programme Director, CME activities for Nursing Dept, GAHS, C/O Mafraq Hospital
PO Box 2951, Abu Dhabi. UAE - Email: abudhabicme_nsg@hotmail.com